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【Keynote Lecture II】

Architecture and function of skeletal muscle in Japanese boys and girls

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The age changes in muscle strength and other aspects of muscle performance during growth have been extensively studied. Dimensional analyses have shown that the strength development may not only be due to the quantitative changes that occur while growing up. In the study of muscle strength development with growth and maturation, comparisons are made between populations of different body sizes. It is therefore important that a size-free strength variable is used for interpretive purposes. The effect of body size on strength measurement has been a

complicating factor in the analysis of strength development in children and adolescents. A number of studies have used allometric scaling principles to control for differences in body size on strength development in adult study participants.

The purpose of the present lecture is to review the influence of age and sex on the muscle strength and muscle architecture such as cross-sectional area, length and pennation of fascicle measured by means of imaging technology as ultrasonography and magnetic resonance imaging.